National TRU Waste Management Plan

Quarterly Supplement

Summary of Fiscal Year 2002
First Quarter Performance and Annual Forecasts

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U.S. Department of Energy
Carlsbad Field Office

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Introduction

The U.S. Department of Energy (DOE) is committed to honoring the federal government's obligation to clean up "legacy" waste at sites across the nation that supported nuclear research and development, and the production and testing of nuclear weapons. It is the objective of DOE Order 435.1, "Radioactive Waste Management," to ensure that all DOE radioactive waste is managed in a manner that is protective of worker and public health and safety, and the environment. Per this Order, DOE is responsible for developing, implementing, and maintaining integrated complex-wide radioactive waste management program plans. Each plan describes the functional elements, organizations, responsibilities, and activities that comprise the system needed to store, treat, and dispose of waste. In addition, the DOE is responsible for establishing and maintaining a system to compile waste generation projection data and other information concerning waste management facilities, operations, and activities. The issuance of the National Transuranic (TRU) Waste Management Plan (NTWMP), Revision 2, dated December 2000 fulfilled this obligation. Revision 3 of the NTWMP is currently in preparation for issuance in February of 2002.

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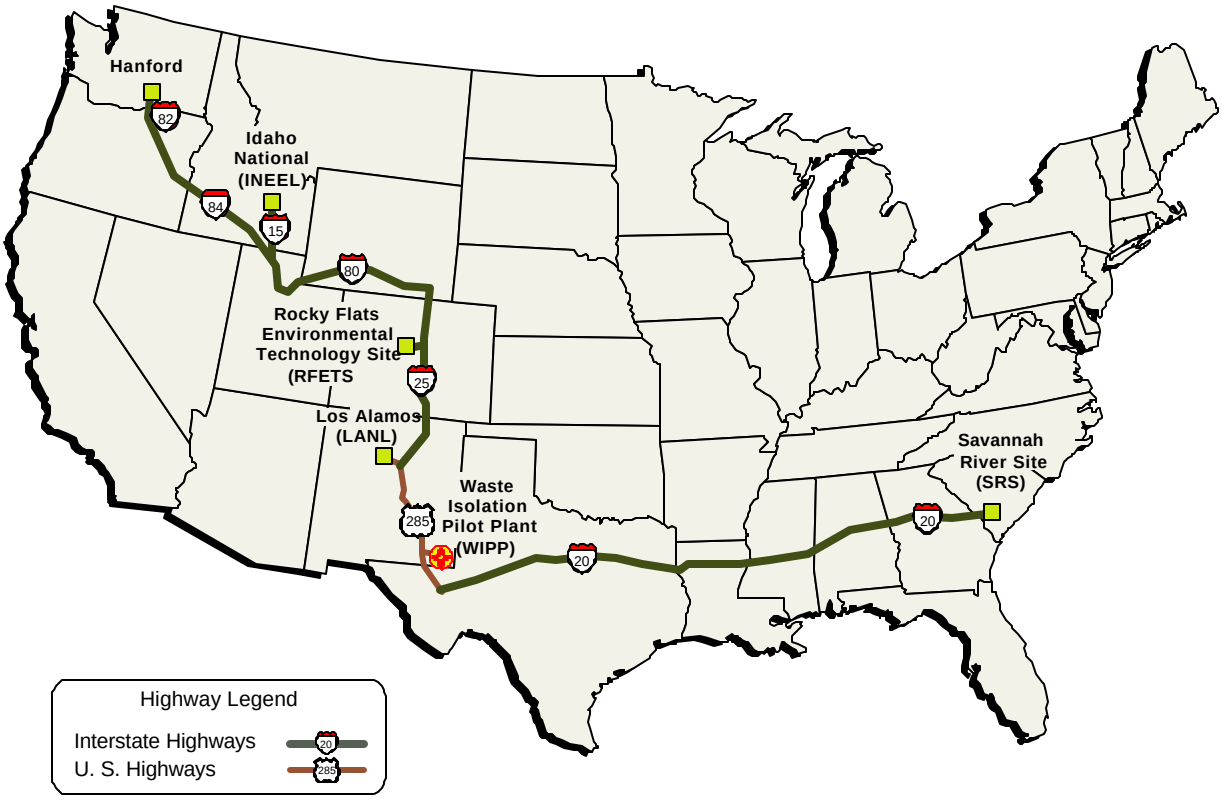
This Quarterly Supplement for the First Quarter of Fiscal Year 2002 (October - December 2001) documents site and system-wide performance as of December 31, 2001 through Key Performance Indicators (KPIs) developed in the NTWMP. These KPIs are sets of tailored metrics that are used to report current status, monitor the effects of changes, determine progress, and provide feedback for continuous system improvement. The DOE uses the KPIs to measure the progress and success of the many activities within the national TRU system that contribute toward the ultimate goal of TRU waste cleanup and disposal. The Quarterly Supplements are issued every three months and document TRU Waste System performance during the past quarter and forecast the next quarter's activities compared to these KPIs.

In this Quarterly Supplement, two KPIs, the number of shipments made on a monthly basis and the monthly volume of waste received, are tracked. These numbers are shown as plots of actual performance against the baseline schedules provided for inclusion in the NTWMP by each site's TRU program and TRU waste managers. These KPIs reflect the periodic updates or three month forecasts made to these schedules on a quarterly basis.

The Quarterly Supplement also evaluates the impacts of system schedule changes based on discussions and negotiations with the TRU waste sites during the preparation of the NTWMP. The NTWMP is revised annually to reflect the new schedules provided by each site's TRU program and TRU waste managers. Updated KPIs are developed based on the schedules. Variances from the previous year's schedules that have an impact on out-year system capabilities are addressed in the NTWMP.



KPIs are also used by the National Transuranic Waste Complex Corporate Board (the Board) to measure and monitor performance. The Board was developed in May 2001 to provide consensus, strategic, tactical, and programmatic recommendations, and facilitate the integration and business-like operation of the National TRU Waste Program. Membership consists of senior DOE and contractor representatives from those sites that are actively shipping waste to the WIPP. The vision of the Board is to achieve an end-state of cost-effectiveness and safety by using best management business practices, such as standardization, economies of scale at the national level, operational efficiencies (e.g., modular/mobile systems), and national authorization basis requirements for the operational safety of the modular/mobile systems (i.e., documentation transferable from site to site). KPIs used by the Board include the four KPIs described previously for the NTWMP and Quarterly Supplement plus KPIs for TRUPACT-II utilization and the resolution of corrective action reports and non-conformance reports resulting from the audit process.

The above figure shows the corridors (or routes) over which the waste is currently transported to WIPP. These corridors were "opened" prior to the sites being allowed to ship The opening of the shipping corridor includes informing the general public and the elected officials of the associated risk and effectively responding to their concerns. State and tribal governments require emergency preparedness training, training exercises, and hospital-based training to ensure that any accident that may occur can be managed locally.

A corridor is considered open when, prior to the announced generator site shipping date, requests for training and exercises have been completed to the satisfaction of the state or tribal government. Corridors from the Hanford Site, the Idaho National Engineering and Environmental Laboratory, the Rocky Flats Environmental Technology Site, the Los Alamos National Laboratory, and the Savannah River Site to WIPP are open.

Key Performance Indicators

This Quarterly Supplement documents site and system-wide performance through Key Performance Indicators (KPIs) developed in the NTWMP. Performance measurement is mandated by the Government Performance and Results Act of 1993. In addition, DOE Order 435.1, *"Radioactive Waste Management,"* requires that the goals of all DOE waste management programs be measurable to support periodic assessment of the program's progress. Therefore, the KPIs developed and tracked within the DOE TRU waste system support specific program completion or site closure dates, such as those listed in the Status Report on *Paths to Closure* (DOE/EM-0526, March 2000).

To provide this measurement capability, the DOE uses Performance Indicators (PIs). In general, the DOE derives benefits from the PIs such as:

- Accountability for Federal employees and contractors regarding stewardship of monetary resources by showing progress toward national goals.
- Validation of programs and their costs. In an era of shrinking federal budgets, demonstration of good performance and sustainable public impacts with positive results help validate programs and their costs.
- Trending to determine the need to implement contingency planning. Management of products and services can be improved by analyzing trends and focusing resources.
- Improving communications. Collecting and processing accurate information for PIs facilitates communications regarding mission-critical activities.

Within the DOE TRU waste system, specific KPIs serve four basic functions:

- Provide measurable results so the National TRU Program can demonstrate progress towards goals and objectives.
- Determine the effectiveness of each element of the program.
- Characterize the performance of the DOE TRU waste system.
- Allow assessment of program successes so that resources can be reallocated to projects where they have the most positive impact to system performance.

Each site that has activity planned in FY2002 has KPIs presented on:

- Volume shipped (Actual versus Annual Planned) (cumulative).
- Number of shipments (Actual versus Annual Planned) (cumulative).

In addition to the Actual Volume and Shipments, and the Planned Volume and Shipments presented for each site, forecast values for volumes and shipments are updated quarterly to show current planning. The forecast values for the first quarter of FY2002 are depicted in green on the Performance Indicator figures for each site. These forecast values have been obtained from the quarterly forecasts and annual site signups. These depict the planned shipments and volumes that are expected to be used in Revision 3 of the NTWMP.

Since the cumulative site shipping demands exceed budgeted shipping and disposal capability during FY2002, a indicator line in red has been added to each figure to depict anticipated shipping limitations over the next quarter. These limitations reflect the allocation of limited resources and are based upon the Corporate Board's assigned shipping priorities of first supporting RFETS and INEEL, then SRS, and finally other sites as resources are available.

Argonne National Laboratory - East

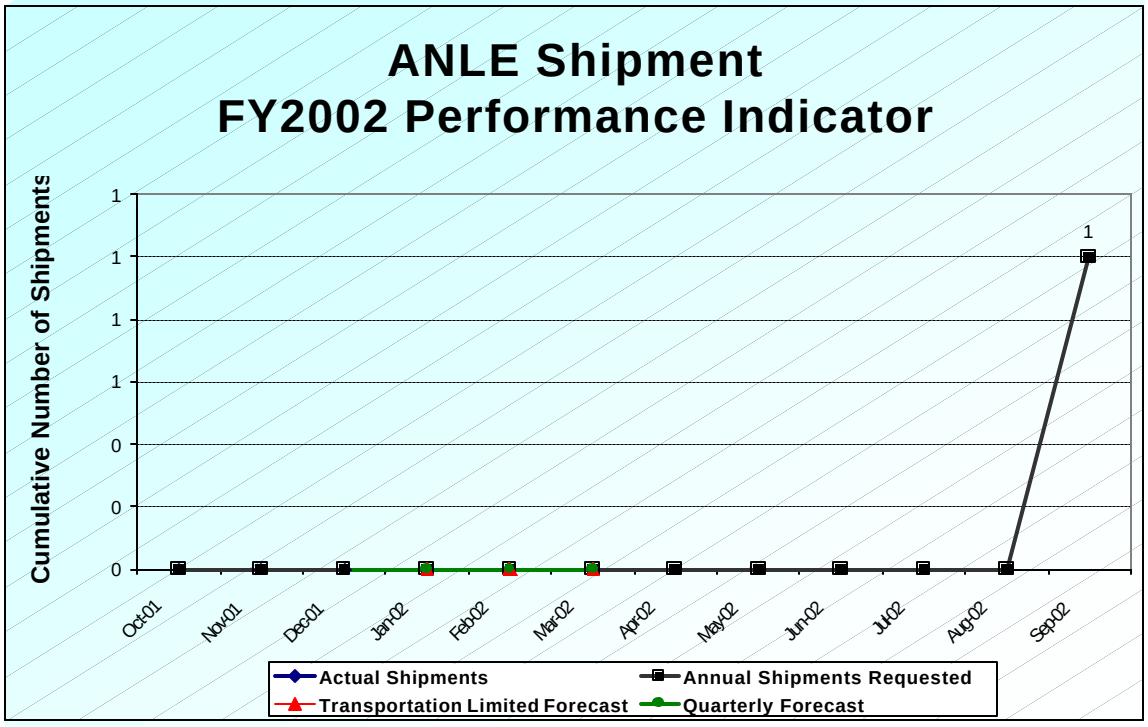
Background

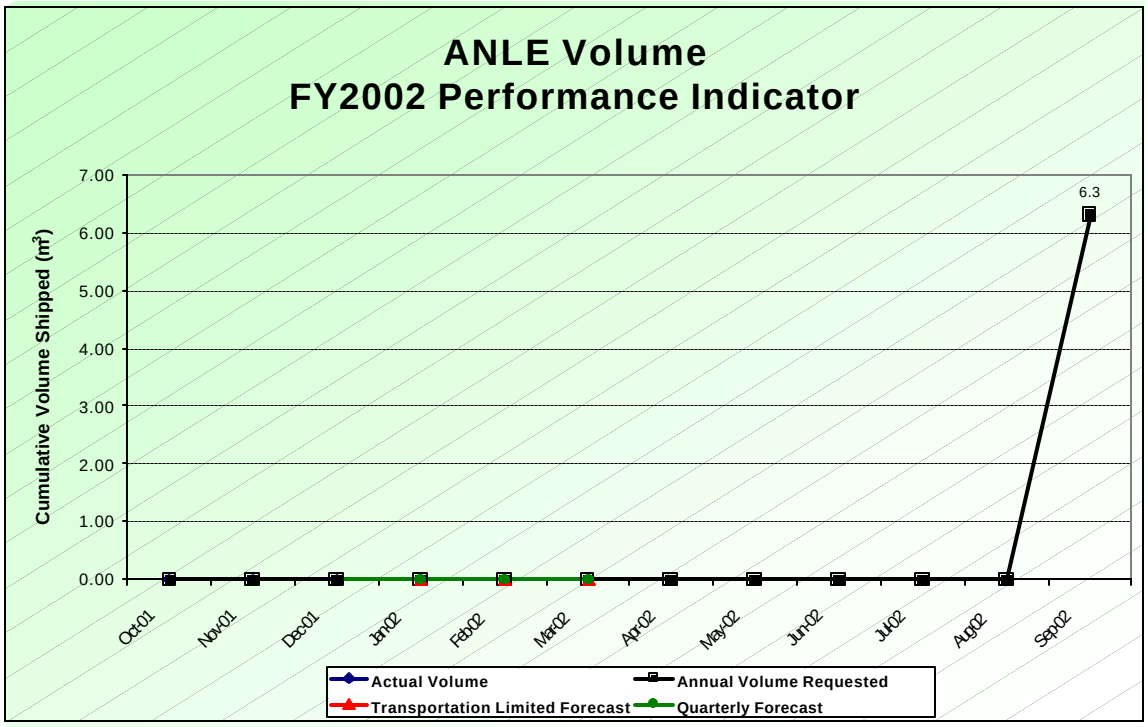
The first shipment from Argonne National Laboratory - East (ANL-E) was anticipated to be in December of 2001; however, due to delays in the performance of the certification audit, the first shipment date is anticipated to be September 2002. There were no FY2001 Performance Indicators.

FY2002 Key Performance Indicators

The Key Performance Indicators are graphically shown in the following figures:

- ANLE Shipment FY2002 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2002.
- ANLE Volume FY2002 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2002.


ANLE Shipment
FY2002 Performance Indicator
Cumulative Number of Shipments
1
1
1
1
0
0
0
1
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Shipments
Annual Shipments Requested
Transportation Limited Forecast
Quarterly Forecast


ANLE Volume
FY2002 Performance Indicator
Cumulative Volume Shipped (m³)
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
6.3
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Volume
Annual Volume Requested
Transportation Limited Forecast
Quarterly Forecast

Hanford Reservation

Background

The first shipment from the Hanford Reservation (Hanford) was made on July 12, 2000 and was received at WIPP on July 14, 2000. Through September 30, 2001, a total of ten shipments from Hanford representing 80.4 m^3 have been received.

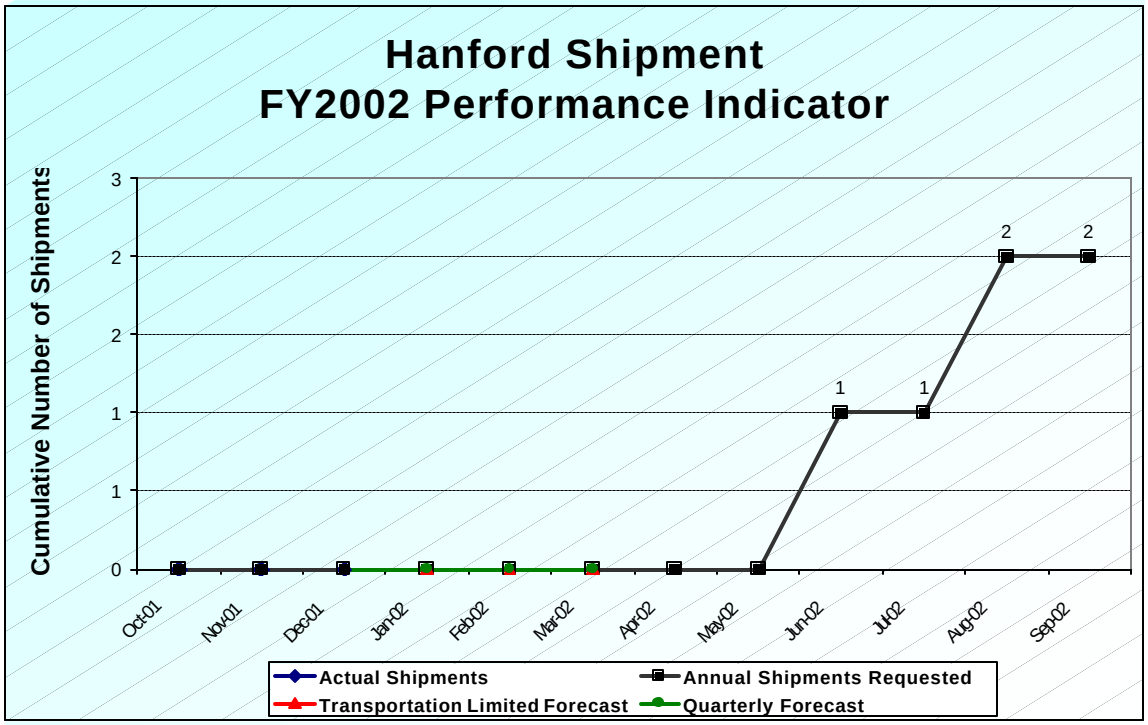
First Quarter Performance

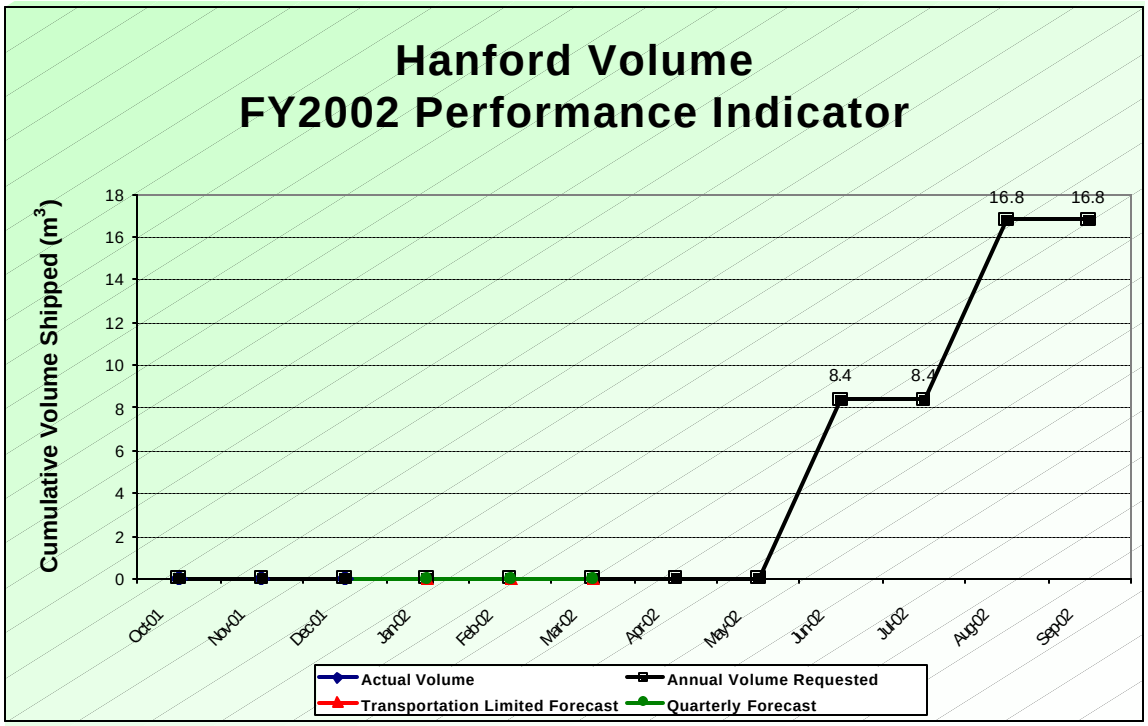
During the first quarter of FY2002, there were no shipments planned or made from Hanford.

FY2002 Key Performance Indicators

The Key Performance Indicators are graphically shown in the following figures:

- Hanford Shipment FY2002 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2002.
- Hanford Volume FY2002 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2002.


Hanford Shipment
FY2002 Performance Indicator
Cumulative Number of Shipments
3
2
2
1
1
0
1
1
2
2
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Shipments
Annual Shipments Requested
Transportation Limited Forecast
Quarterly Forecast


Hanford Volume
FY2002 Performance Indicator
Cumulative Volume Shipped (m3)
18
16
14
12
10
8
6
4
2
0
8.4
8.4
16.8
16.8
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Volume
Annual Volume Requested
Transportation Limited Forecast
Quarterly Forecast

Idaho National Engineering and Environmental Laboratory

Background

The first shipment from the Idaho National Engineering and Environmental Laboratory (INEEL) was made on April 27, 1999 and was received at WIPP on April 28, 1999. Through September 30, 2001, a total of 137 shipments from INEEL representing 819.0 m^3 have been received.

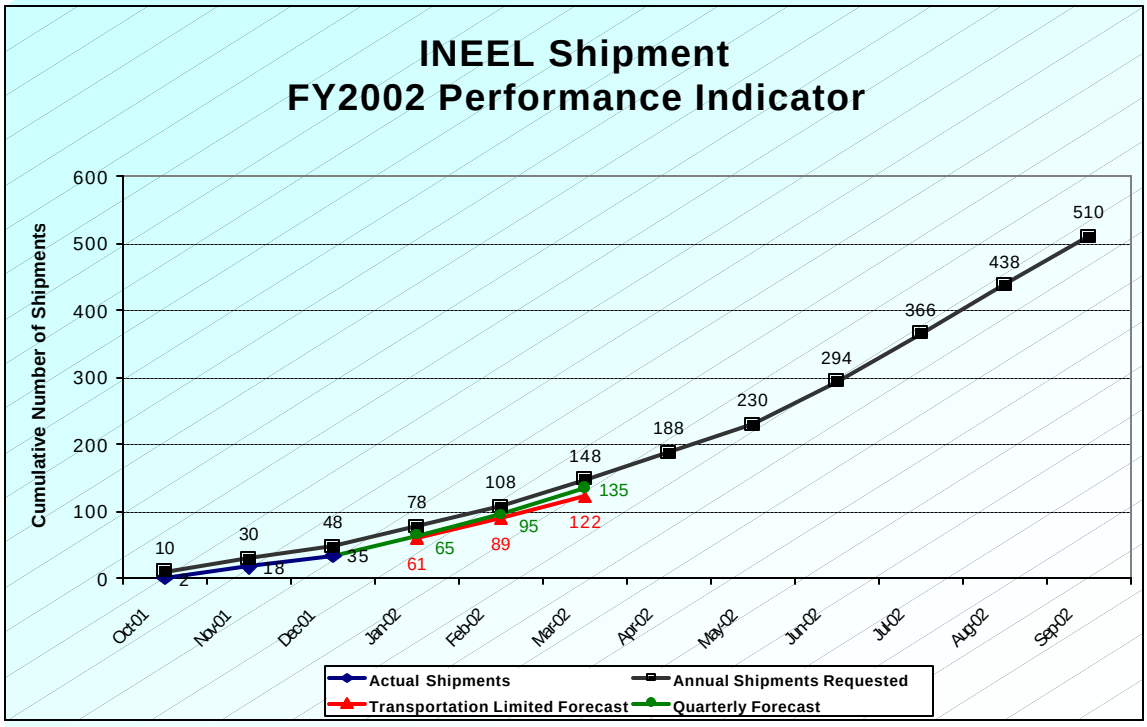
First Quarter Performance

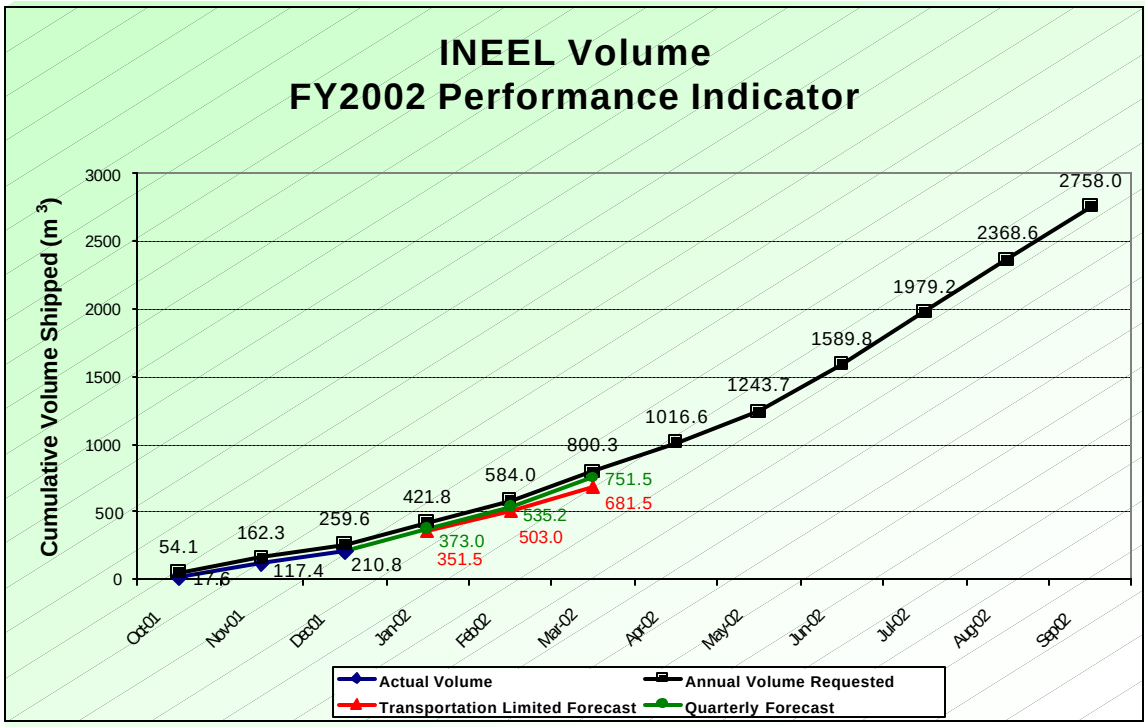
During the first quarter of FY2002, 35 shipments with a volume of 210.8 m^3 were made. The projections for this period were 48 shipments with a total volume of 259.6 m^3.

FY2002 Key Performance Indicators

The Key Performance Indicators are graphically shown in the following figures:

- INEEL Shipment FY2002 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2002.
- INEEL Volume FY2002 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2002.


INEEL Shipment
FY2002 Performance Indicator
Cumulative Number of Shipments
600
500
400
300
200
100
0
10
30
48
78
108
148
188
230
294
366
438
510
2
18
35
61
89
122
65
95
135
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Shipments
Annual Shipments Requested
Transportation Limited Forecast
Quarterly Forecast


INEEL Volume
FY2002 Performance Indicator
Cumulative Volume Shipped (m 3)
3000
2500
2000
1500
1000
500
0
54.1
162.3
259.6
421.8
584.0
800.3
1016.6
1243.7
1589.8
1979.2
2368.6
2758.0
17.6
117.4
210.8
373.0
535.2
751.5
351.5
503.0
681.5
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Volume
Annual Volume Requested
Transportation Limited Forecast
Quarterly Forecast

Los Alamos National Laboratory

Background

The first shipment from the Los Alamos National Laboratory (LANL) was made on March 25, 1999 and was received at WIPP on March 26, 1999. Through September 30, 2001, a total of 24 shipments from LANL representing 263.4 m^3 have been received.

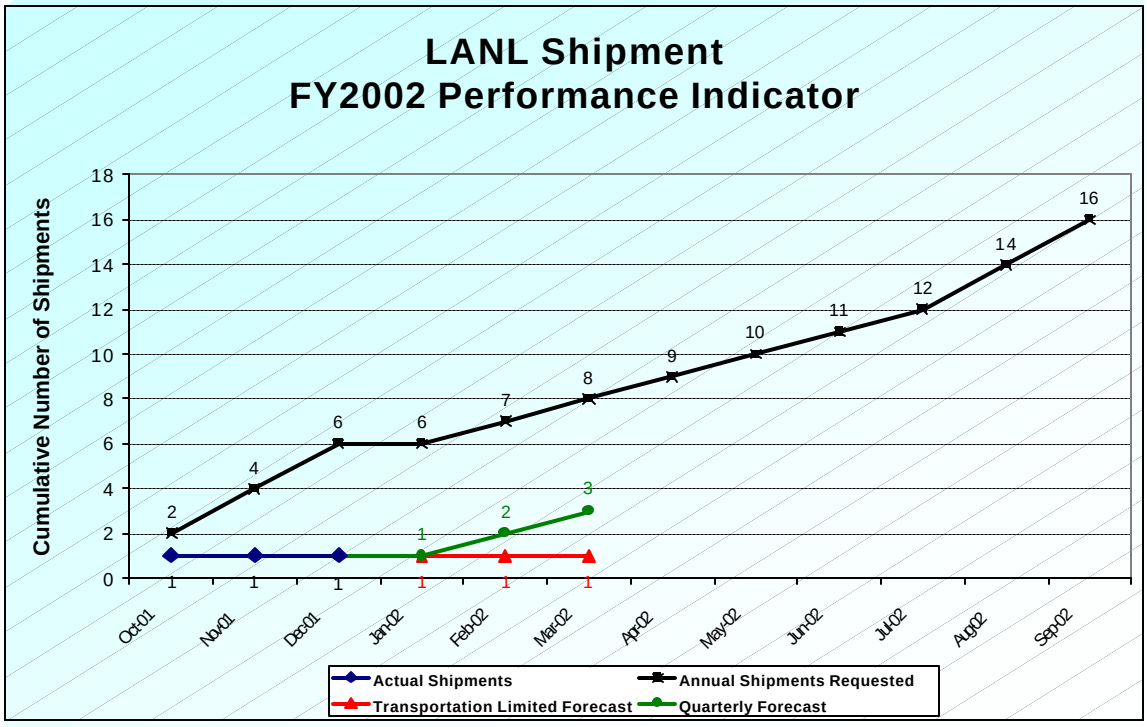
First Quarter Performance

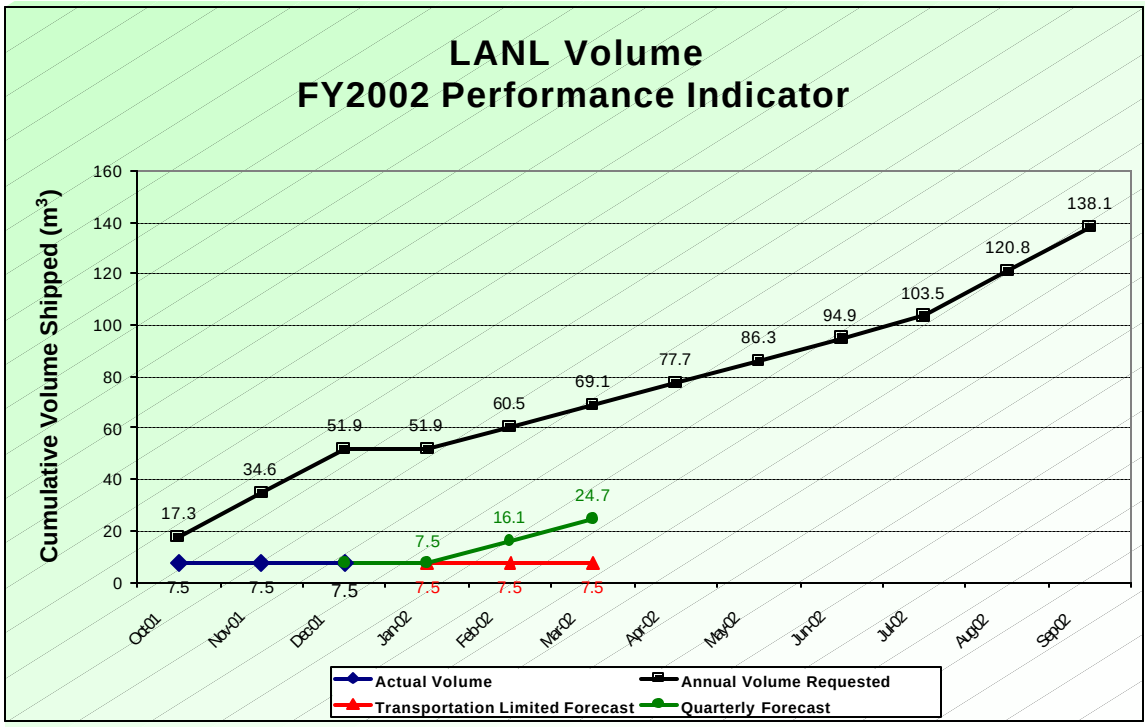
During the first quarter of FY2002, one shipment with a total volume of 7.5 m^3 was made. The projection for this period was six shipments with a total volume of 51.9 m^3.

FY2002 Key Performance Indicators

The Key Performance Indicators are graphically shown in the following figures:

- LANL Shipment FY2002 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2002.
- LANL Volume FY2002 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2002.


LANL Shipment
FY2002 Performance Indicator
Cumulative Number of Shipments
0
2
4
6
8
10
12
14
16
18
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
2
4
6
6
7
8
9
10
11
12
14
16
1
1
1
1
1
1
1
2
3
Actual Shipments
Annual Shipments Requested
Transportation Limited Forecast
Quarterly Forecast


LANL Volume
FY2002 Performance Indicator
Cumulative Volume Shipped (m3)
0
20
40
60
80
100
120
140
160
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
17.3
34.6
51.9
51.9
60.5
69.1
77.7
86.3
94.9
103.5
120.8
138.1
7.5
7.5
7.5
7.5
7.5
7.5
7.5
16.1
24.7
Actual Volume
Annual Volume Requested
Transportation Limited Forecast
Quarterly Forecast

Nevada Test Site

Background

The first shipment from the Nevada Test Site was anticipated to be in December of 2001; however, due to delays in the performance of the certification audit, the first shipment is anticipated in October 2002. There were no FY2001 Performance Indicators.

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Rocky Flats Environmental Technology Site

Background

The first shipment from the Rocky Flats Environmental Technology Site (RFETS) was made on June 15, 1999 and was received at WIPP on June 17, 1999. Through September 30, 2001, a total of 216 shipments from RFETS representing 1,358.3 m^3 have been received.

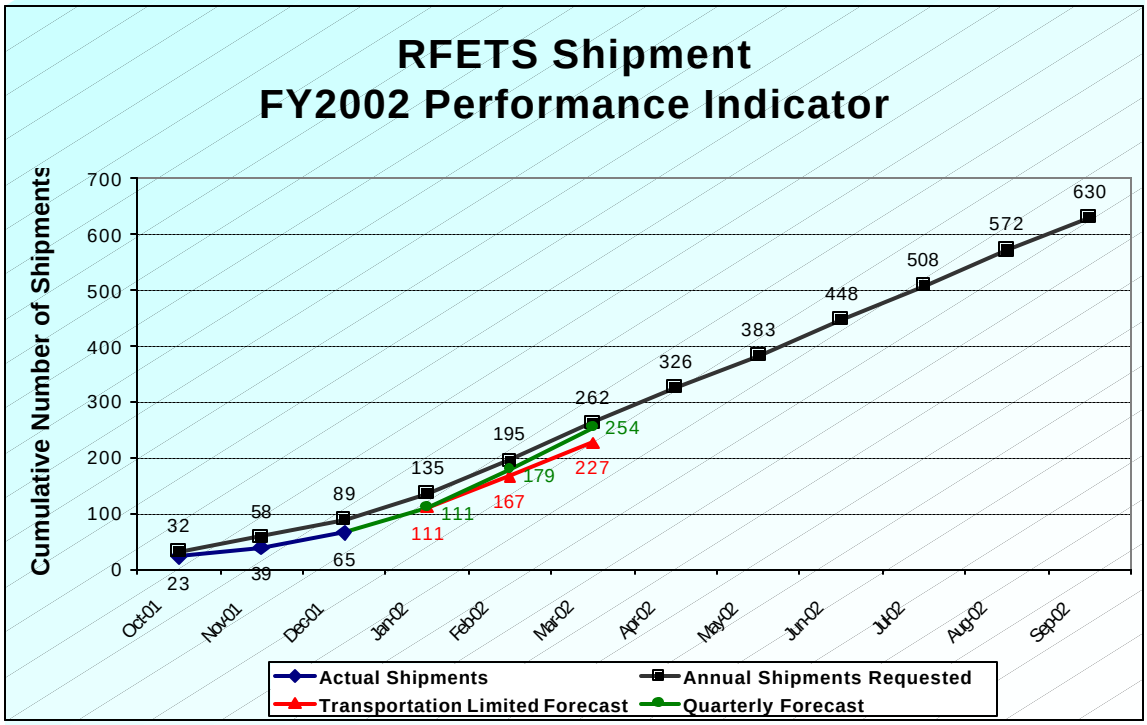
First Quarter Performance

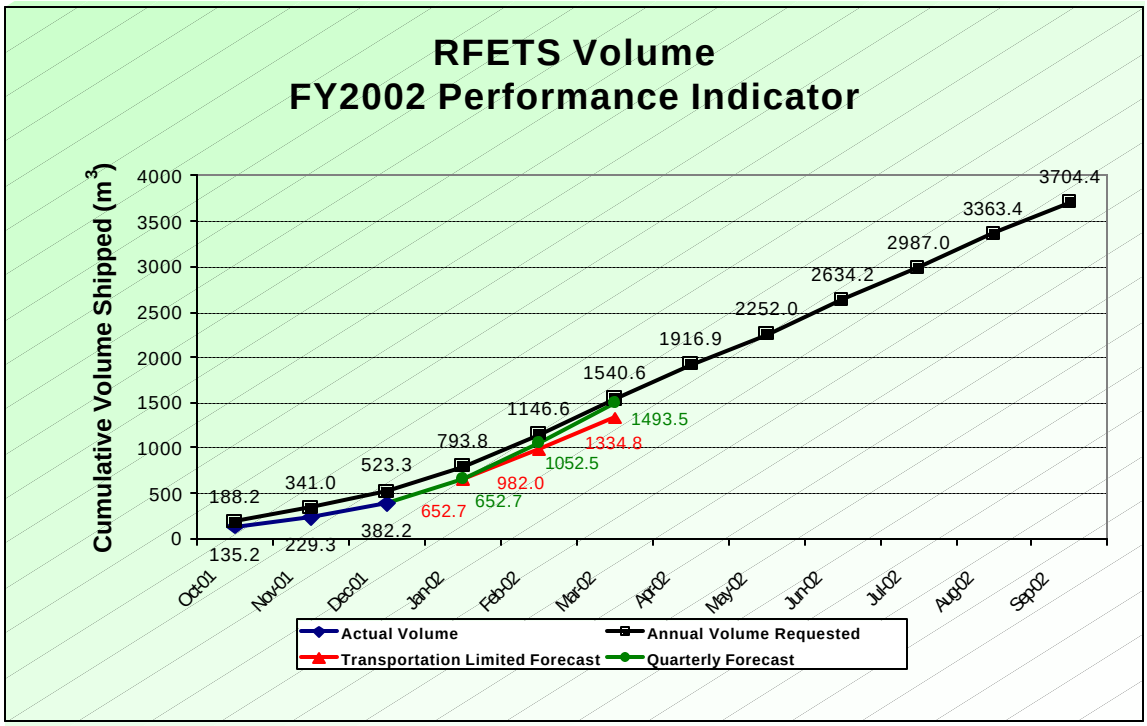
During the first quarter of FY2002, 65 shipments with a total volume of 382.2 m^3 were made. The projection for this period was 89 shipments with a total volume of 523.3 m^3.

FY2002 Key Performance Indicators

The Key Performance Indicators are graphically shown in the following figures:

- RFETS Shipment FY2002 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2002.
- RFETS Volume FY2002 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2002.


RFETS Shipment
FY2002 Performance Indicator
Cumulative Number of Shipments
700
600
500
400
300
200
100
0
32
58
89
135
195
262
326
383
448
508
572
630
23
39
65
111
179
254
111
167
227
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Shipments
Annual Shipments Requested
Transportation Limited Forecast
Quarterly Forecast


RFETS Volume
FY2002 Performance Indicator
Cumulative Volume Shipped (m3)
4000
3500
3000
2500
2000
1500
1000
500
0
188.2
341.0
523.3
793.8
1146.6
1540.6
1916.9
2252.0
2634.2
2987.0
3363.4
3704.4
135.2
229.3
382.2
652.7
982.0
1493.5
652.7
1052.5
1334.8
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Volume
Annual Volume Requested
Transportation Limited Forecast
Quarterly Forecast

Savannah River Site

Background

The first shipment from the Savannah River Site (SRS) was made on May 8, 2001 and received on May 10, 2001. As of September 30, 2001, seven shipments of 61.7 m^3 have been made and disposed.

To supplement shipments from SRS, mobile characterization systems have been deployed at SRS as part of the Central Characterization Project (SRS/CCP). The goal of this deployment is to increase shipments from SRS to accommodate the transfer of TRU waste from the Mound Laboratory in Ohio to SRS. The transfer of the Mound Laboratory TRU waste is being accomplished in refurbished ATMX railcars (now referred to as OHOX railcars) under a special exemption granted by the Department of Transportation. This transfer will allow the timely closure of the Mound Laboratory facility by the DOE in accordance with agreements with the state of Ohio. A related agreement with the state of South Carolina requires that the DOE transfer, by volume, twice as much TRU waste to the WIPP for disposal as received from the Mound Laboratory. Therefore, SRS/CCP is supporting both of these agreements. The SRS/CCP certification audit was completed in December 2001. Approval by the New Mexico Environment Department to begin shipments is expected to be received in February 2002. Due to the distinction in the two efforts, SRS and SRS/CCP will be addressed separately in the following discussions.

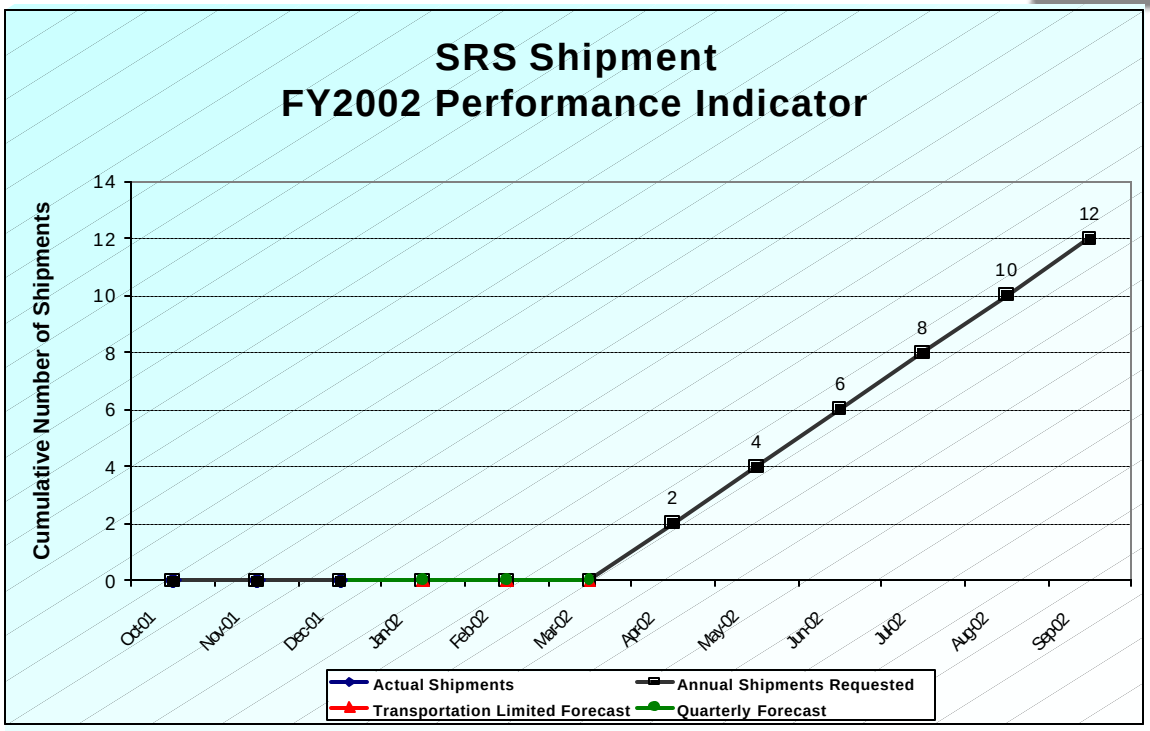
First Quarter Performance

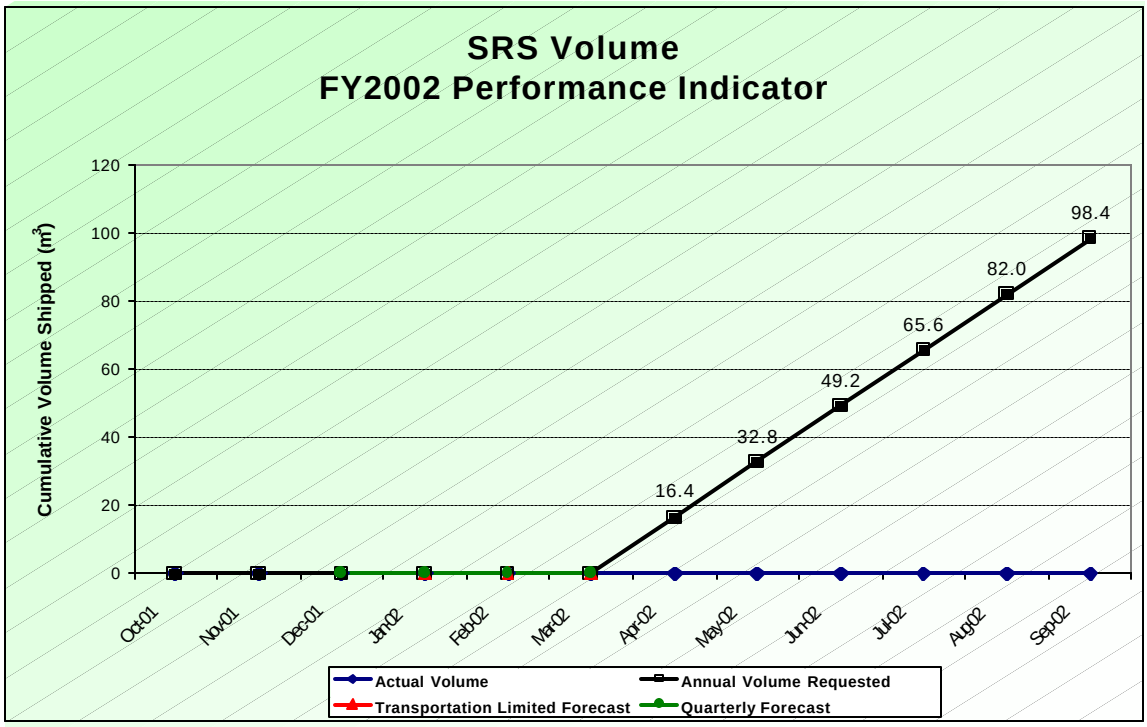
During the first quarter of FY2002, there were no shipments planned or made from either SRS or SRS/CCP.

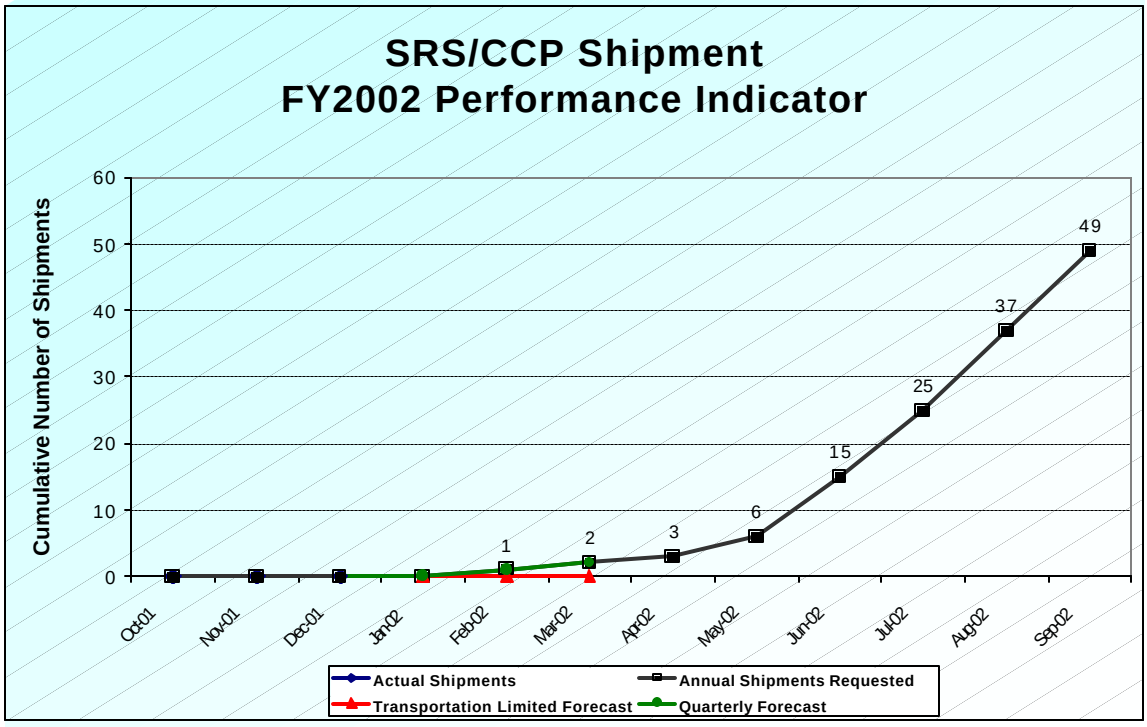
FY2002 Key Performance Indicators

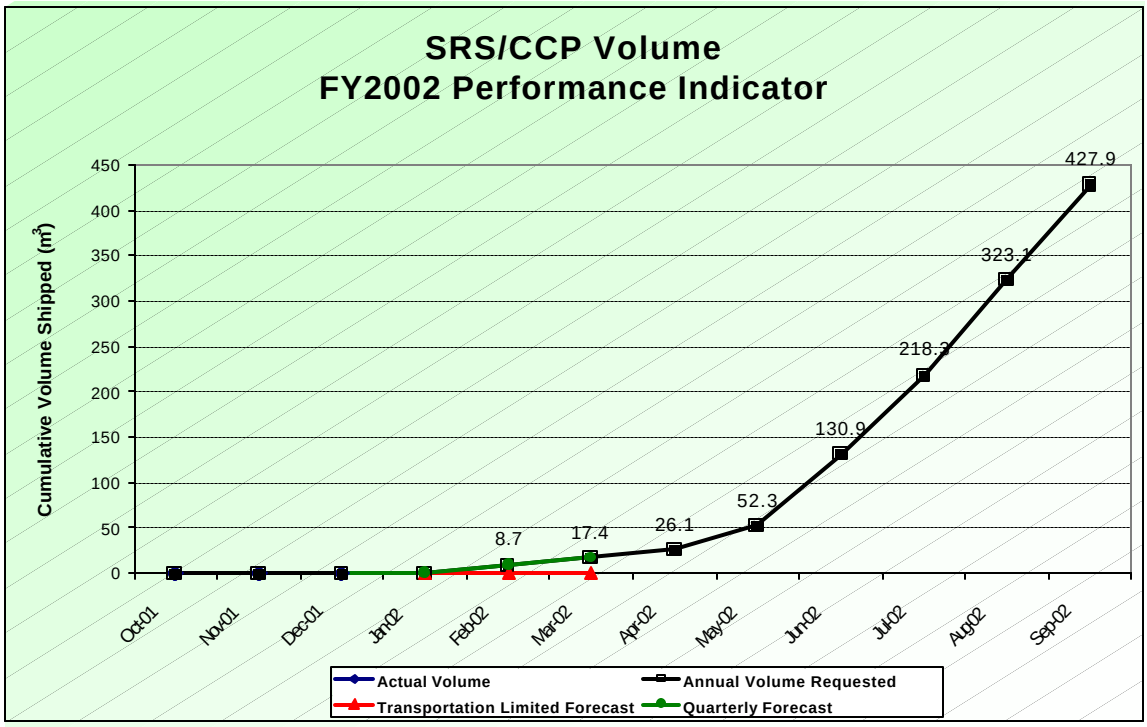
The Key Performance Indicators for SRS and SRS/CCP are graphically shown in the following figures:

- SRS Shipment FY2002 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2002.
- SRS Volume FY2002 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2002.
- SRS/CCP Shipment FY2002 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2002.
- SRS/CCP Volume FY2002 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2002.


SRS Shipment
FY2002 Performance Indicator
Cumulative Number of Shipments
0
2
4
6
8
10
12
14
2
4
6
8
10
12
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Shipments
Annual Shipments Requested
Transportation Limited Forecast
Quarterly Forecast


SRS Volume
FY2002 Performance Indicator
Cumulative Volume Shipped (m3)
0
20
40
60
80
100
120
16.4
32.8
49.2
65.6
82.0
98.4
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Volume
Annual Volume Requested
Transportation Limited Forecast
Quarterly Forecast


SRS/CCP Shipment
FY2002 Performance Indicator
Cumulative Number of Shipments
60
50
40
30
20
10
0
1
2
3
6
15
25
37
49
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Shipments
Annual Shipments Requested
Transportation Limited Forecast
Quarterly Forecast


SRS/CCP Volume
FY2002 Performance Indicator
Cumulative Volume Shipped (m3)
450
400
350
300
250
200
150
100
50
0
8.7
17.4
26.1
52.3
130.9
218.3
323.1
427.9
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Volume
Annual Volume Requested
Transportation Limited Forecast
Quarterly Forecast

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TRU Waste System

Background
Through September 30, 2001, a total of 394 shipments representing 2582.9 m^3 of TRU waste have been received.

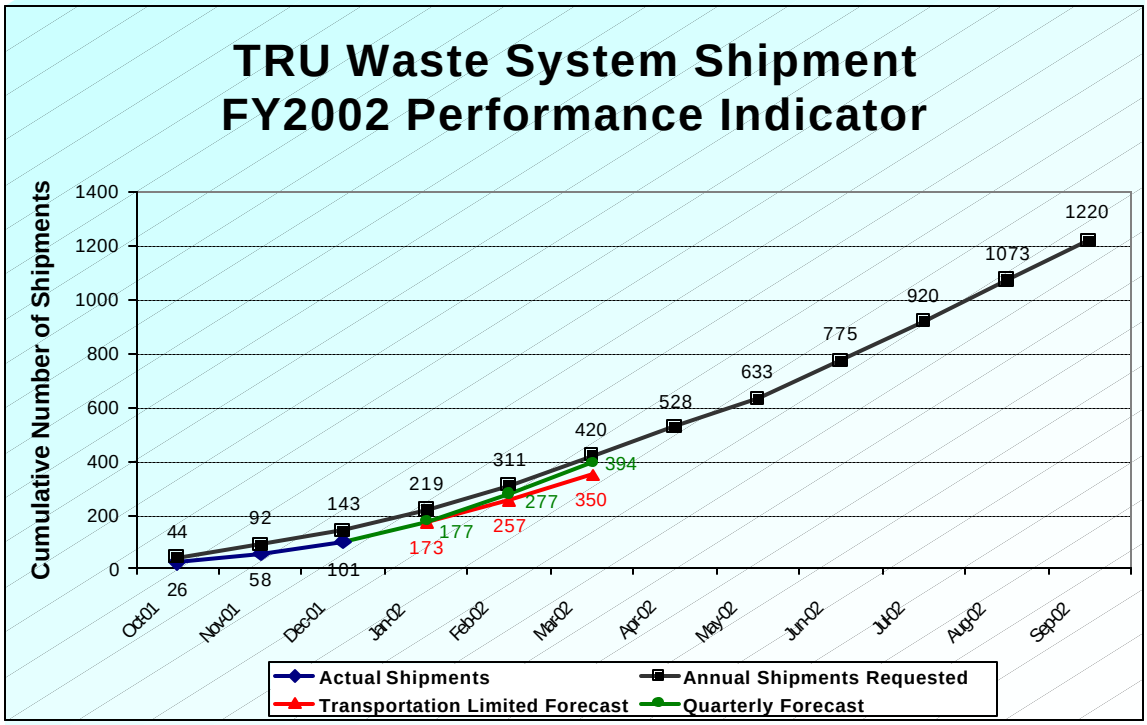
First Quarter Performance
During the first quarter of FY2002, 101 shipments with a total volume of 600.6 m^3 were made. The projection for this period was 143 shipments with a total volume of 834.8 m^3.

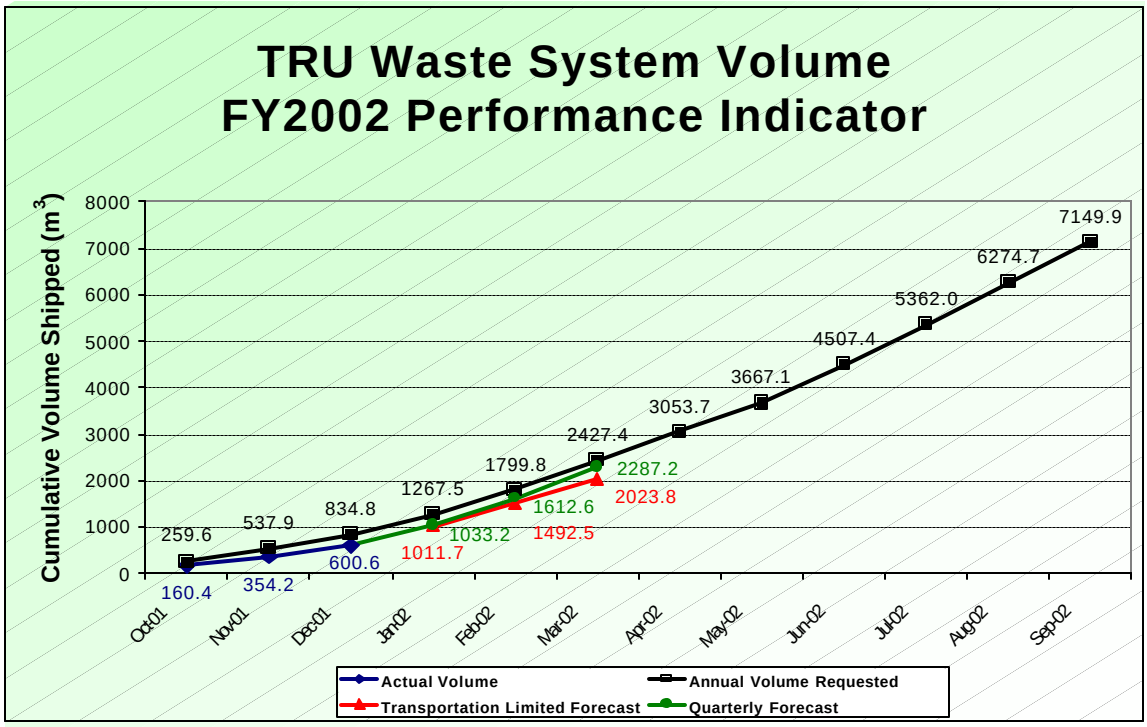
FY2002 Key Performance Indicators
The Key Performance Indicators are graphically shown in the following figures:

- TRU Waste System Shipments FY2002 Performance Indicator - the actual number of shipments versus the planned number of shipments during FY2002.
- TRU Waste System Volume FY2002 Performance Indicator - the actual volume shipped versus the planned volume to be shipped during FY2002.

Analysis
During the current Fiscal Year, the cumulative number of shipments made was approximately 70 percent of the planned values. By volume, 72 percent of the planned volume of TRU waste was shipped. The less than anticipated values are due to the reduction in shipments resulting from the events of September 11, 2001, weather delays, and site procedural concerns.

The second quarter of FY2002 projections show a significant increase in the number of shipments. Toward the end of FY2002, for example, INEEL is planning approximately 18 shipments per week and RFETS is planning approximately 15 shipments per week. In addition to projected shipments from other sites, the total projected shipment rate is between 35 and 40 shipments per week. Though a funding increase was received to support 25 shipments with two TRUPACT-IIs per shipment, transportation resources and operational staffing levels still do not support these shipping rate and volume increases. The figures for each site have been annotated with an indication of shipping limitations due to the lack of resources. With the majority of resources being allocated to RFETS and INEEL, most other sites will have few shipments during FY2002.


TRU Waste System Shipment
FY2002 Performance Indicator
Cumulative Number of Shipments
1400
1200
1000
800
600
400
200
0
44
92
143
219
311
420
528
633
775
920
1073
1220
26
58
101
173
257
350
394
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Shipments
Annual Shipments Requested
Transportation Limited Forecast
Quarterly Forecast


TRU Waste System Volume
FY2002 Performance Indicator
Cumulative Volume Shipped (m3)
8000
7000
6000
5000
4000
3000
2000
1000
0
259.6
537.9
834.8
1267.5
1799.8
2427.4
3053.7
3667.1
4507.4
5362.0
6274.7
7149.9
160.4
354.2
600.6
1011.7
1492.5
2023.8
2287.2
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Jul-02
Aug-02
Sep-02
Actual Volume
Annual Volume Requested
Transportation Limited Forecast
Quarterly Forecast

Technical and Programmatic Issues

Technical and programmatic issues will be discussed in Revision 3 of the National TRU Waste Management Plan. These issues are not repeated here.

Optimization

The National TRU Waste System Optimization Project was initiated by the Department of Energy's Carlsbad Field Office and chartered to transition the DOE TRU Waste System from the baseline to a state of optimized efficiency. The Optimization Plan is in development by the Carlsbad Field Office.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